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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,710	02/25/2002	Robert W. Allington	18-587-9-1	5831

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EXAMINER	
POLITZER, JAY L	
ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 03/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
10/082,710	Allington et al
Examiner	**Art Unit**
Jay Politzer	2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Feb 25, 2002*.

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above, claim(s) *13-27* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-12* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *Feb 25, 2002* is/are a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *4, 6*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Serial Number: 10/082,710
Art Unit: 2856

Title: LIQUID CHROMATOGRAPHIC METHOD AND SYSTEM
Filed: 2/25/02
Inventor(s): Allington et al
Attorney(s): Carney

DETAILED ACTION

ELECTION/RESTRICTION:

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-12, drawn to a chromatograph detector and multiplexer, classified in class 73, subclass 61.55.

   II. Claims 13-16, drawn to a time division multiplexer, classified in class 356, subclass 478.

   III. Claims 17-24, drawn to a multiple channel liquid chromatograph, classified in class 210, subclass 656.

   IV. Claims 25-27, drawn to chromatograph pump and mixer, classified in class 210, subclass 198.2.

   The inventions are distinct, each from the other because of the following reasons:

2. Inventions I. and II. are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because any standard multiplexer can be used. The subcombination has separate utility such as multiplexing in a non-chromatograph application.

3. Inventions III. and I. are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the chromatogram can

use other multiplexers and detectors . The subcombination has separate utility such as useful with only one column.

4. Inventions I. and IV. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention IV. has separate utility such as utility with any detector and multiplexer. See MPEP § 806.05(d).

5. Inventions II. and III. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the multiplexer has separate utility such as useful in a non-chromatograph application. See MPEP § 806.05(d).

6. Inventions II. and IV.. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the multiplexer has separate utility such as useful in a non-chromatograph application. See MPEP § 806.05(d).

7. Inventions III. and IV. are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because other standard pumps and mixers can be used. The subcombination has separate utility such as useful in a single column chromatograph.

8. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

9. During a telephone conversation with Vincent Carney on 3/10/03 a provisional election was made without traverse to prosecute the invention of I., claims 1-12. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

10. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended

in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

DRAWINGS:

11. The figures are objected to because:

"Logarithmic" is misspelled in several places.

12. Correction is required.

13. Applicant is required to submit a proposed drawing correction in response to this Office Action. The objection to the drawings will not be held in abeyance.

REJECTIONS UNDER 35 U.S.C. § 112:

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15. Claims 1-12 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example:

Regarding Claim 1; it must be made clear that the pump is a reciprocating pump with a defined stroke time for each cylinder or a peristaltic pump. A non-reciprocating pump doesn't have a defined stroke time.

Regarding Claims 1 and 10; it also must be made clear that one is not analyzing *solvent*, but is analyzing *eluate*.

Regarding Claim 10; the claim suggests that the first light guide is blocked by a photodetector and can therefore not transmit light to the second light guide.

REJECTIONS OVER PRIOR ART UNDER 35 U.S.C. § 103:

16. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person."

17. Claims 1-12 are rejected under 35 U.S.C. § 103 as being unpatentable over Dourdeville et al '813, hereinafter Dourdeville in view of Quake et al '332, hereinafter Quake, and further in view of Brogardh et al, hereinafter Brogardh.

Regarding Claims 1, 4, 9 and 12; Dourdeville teaches a liquid chromatography system in Col 1, Li 13-29. Dourdeville teaches details of the flow cell in Fig 2, having fiber optic input and output at either end. Fig 7 shows a plurality of light sources obtained by rotating a diffraction grating. Dourdeville teaches a plurality of detectors at Col 4, Li 45-49, but fails to

teach a plurality of multiplexed flow cells. Quake teaches that a plurality of flow cells can be assembled and multiplexed at ¶ 79 and ¶ 237, but gives no details of interconnect circuitry to a multiplexer. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a plurality of Dourdeville's cells in a multiplexed network to reduce the hardware cost of dedicated hardware for each detector. Brogardh suggests time-division multiplexing in Fig 1, wherein the interconnect circuitry is a sample-and-hold circuit, see Col 2, Li 59-68. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Brogardh's sample-and-hold circuit as part of a network of flow cells and multiplexer to capture a reading from a detector that is not actively being read.

Regarding Claims 2-3; Brogardh fails to teach design criteria for the sample-and-hold circuitry. It would have been obvious to one of ordinary skill in the art at the time of the invention to specify criteria for the circuitry without undue experimentation.

Regarding Claim 5; at Col 10, Li 7-15 Dourdeville teaches that the length of the flow-cell is chosen as

"a function of the application", and therefore obvious to the skilled artisan.

Regarding Claims 6 and 11; see Dourdeville Fig 7, wherein it is obvious to mount a plurality of light guides in the aperture.

Regarding Claim 7-8; it is obvious to replicate Dourdeville's system. Duplicating the components of a prior art device is a design consideration within the skill of the art. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

DESCRIPTION OF UNAPPLIED ART:

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure because it teaches other aspects of the claimed invention.

INQUIRIES:

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Jay L. Politzer whose telephone number is (703) 305-4930 and whose facsimile number is (703) 308-7382

20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Hezron E. Williams, can be reached at (703) 305-4705.

21. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4900.

jlp 3/10/03

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HELEN KWOK
PRIMARY EXAMINER